WOMEN IN SASKATCHEWAN

AND

TECHNOLOGICAL CHANGE

JUL 2 5 1983

SASKATCHEWAN ADVISORY
COUNCIL ON THE STATUS
OF WOMEN

FEBRUARY, 1983

SASKATCHEWAN ADVISORY COUNCIL

ON THE STATUS OF WOMEN

BARBARA MAKEECHAK (CHAIRPERSON)	SASKATOON
NADINE HUNT	REGINA
JEAN MacKENZIE	PRINCE ALBERT
ELNOR THOMPSON	REGINA
LORI CURRIE	REGINA
DOROTHY THOMAS	REGINA
MARION VAUGHAN	YORKTON
LINDA HOLMES	SASKATOON
ANNE DORION	LA RONGE
ERIC CLINE	SASKATOON

INDEX

A. INTRODUCTION

B. TECHNOLOGICAL CHANGE - DIFFERENT PERSPECTIVES

C. WOMEN/TECHNOLOGICAL CHANGE

1. The Workplace of Now and the Future
2. Health Hazards - A Brief Overview
3. Women/Redundancy/Training/Education

D. TECHNOLOGICAL CHANGE - EXISTING LEGISLATION (SASKATCHEWAN)

E. CONCLUSIONS

F. RECOMMENDATIONS

G. FOOTNOTES

H. BIBLIOGRAPHY

APPENDIX

A. INTRODUCTION

At the present time our society is undergoing changes that are of the magnitude of those wrought by the Industrial Revolution of the 18th Century. The rapid advancement of technology, the introduction of the micro-chip and the sophistication of present day computer technology all combine to effect dramatic social, economic and employment changes in our lives. In terms of direct affects, women are most likely to be the recipients, and nowhere more obviously than in their working lives and employment potential.

Historically, the notion that a "respectable" woman could work was a novel one until the late 19th Century. However, as education for women became more acceptable, more women began to move into the work force usually as nurses and teachers, some in clerical work, although the latter had previously been deemed a traditional male occupation. The invention of the typewriter in 1873, represented a brand-new technological skill and women were considered well suited to this operation because of their training in such accomplishments as piano-playing and needlework.

Although the proportion of working women to men in the 1980's is dramatically different to what it was in the 1880's, women are still found, in overwhelming numbers, in the service sectors. In Saskatchewan, approximately 49% of women over the age of 15 are in the labour force and most of these are employed in the service industry.

Technological change is a reality in our society and even those with the gravest doubts about its value have to concede that it is here to stay. Therefore, it is incumbent on governments to recognize the need for legislative change and the development of education, and training programs, in order to effectively exploit the advantages of technological change while minimizing the negative effects of it on workers and potential workers.

The Saskatchewan Advisory Council on the Status of Women has prepared this brief in order to alert the Minister Responsible for the Status of Women to the concerns of women about technological change, and present some constructive recommendations.

B. TECHNOLOGICAL CHANGE/DIFFERENT PERSPECTIVES

The debate on technological change has been raging for a number of years and the questions surrounding the issue have yet to be finally resolved. It should be noted, however, that while the debate continues and its resolution seems far away, rapid, uncontrolled technological changes are presently evolving and the working lives of present and future workers are being affected, perhaps irrevocably.

Labour Canada recently published the results of a Task Force on Micro-Electronics and Employment and excerpts from briefs, submissions and presentations indicate a wide variety of viewpoints.[2] (appendix)

OPTIMISTIC PERSPECTIVE

Few industries are untouched by modern technology, indeed, the list is almost exhaustive. Banks, supermarkets, offices, airlines, mining industries, the hospitality industry and even into the professions, law, medicine, teaching and engineering; all have introduced computer technology into their operations in recent years to a greater or lesser extent.

Clearly the business sector favours technological change and views it as inevitable and desirable. Increased efficiency and productivity are often cited as being essential for economic recovery and economic survival in a very competitive world market. The Clyne Report described the importance of technological change as "revolutionary" and states;

> *"The rich countries in the world today are those that exploited the industrial revolution in the 19th Century: The rich countries of the future will be those that exploit the information revolution to their own best advantage in the 20th and the 21st centuries."*[3]

PESSIMISTIC PERSPECTIVE

In all of the resource material, both national and international, the most consistent concern seems to be a fear of massive unemployment as a result of the uncontrolled, unregulated introduction of technology in the workplace. Female workers are rightly regarded as particularly vulnerable, as many are in part-time, temporary and non-unionized positions.

Thus, they are unlikely to be protected by any available lay-off legislation and have little job security. In the clerical field, where the preponderance of workers are women, clerical work is very easily automated and to do so is cost efficient. According to Heather Menzies, there is currently little evidence of female workers moving into any of the new jobs which are being created in the technical sphere. [4]

Other areas of concern to women include health and safety issues, the possibility of widespread social psychosis as a result of the dehumanization of the work place, a de-skilling of skilled workers, a lack of training and re-training opportunities, etc.

There is also an uneasy belief by many people that, as yet, there has been no conclusive determination by governments as to the true social and economic effects of technological change. To quote a timely warning from the Federation of Women Teachers' Association:

> *"The government and all other employers in Canada must not consider the people obsolete simply because their skills are obsolete."* [5]

C. WOMEN/TECHNOLOGICAL CHANGE

1. The Workplace of Now and The Future

Women work in banks, the communications industry, supermarkets, airline offices, hotels and offices of all kinds. They are predominately employed at the levels which are being most directly revolutionized by the computer age. While there are few female supermarket or bank managers evident in Saskatchewan, there are many female check-out clerks and bank tellers. Supermarkets are already installing computerized check-out systems which minimize the role of the clerk. It does not require a quantum leap of imagination to foresee the day when the check-out clerk is as obsolete as the delivery boy. Bank employees should also be reading the writing on the wall as, in addition to the automated tellers already in use, there will shortly be systems that automatically transfer funds between accounts, eventually making the chequing process unnecessary. Our government should also be aware that the banking industry will soon have the ability to move large amounts of capital and investments from one part of the country to another, or internationally, almost instantaneously. (The implications of this should perhaps be given consideration in another forum of discussion with respect to the potential effects on small business, the farming industry and the chances of a stable provincial economy)

Technological changes are indeed occurring in almost all types of employment and most dramatically in the secretarial field. The traditional office organization has meant a typing pool to do the bulk of the office work, i.e. typing, sorting, filing, photocopying, and secretaries to provide individualized services to management levels. With the advent of the word processor, the nature of office work has changed. The word processor is actually a mini-computer which can process (type, correct, store, retrieve) the same amount of information in less than one-quarter of the time taken by the old system. Word processors are becoming increasingly sophisticated. For example, major reports can be produced once and edited or changed at any time without the need for re-typing. Indeed, managers with typing skills will probably be able to perform many of the tasks presently done by support staff.

Theoretically, word processors can free their operators from boring, repetitive office drudgery and allow time for more interesting, varied work. In actual fact, they are frequently the cause of mental and physical stress for the employee, because most managements have little or no experience in terms of effective office organization with the new technology. Unfortunately, managements rarely consult with their office staff about re-organization. Consequently, people (usually women) work long hours in isolation from other workers, often at boring assembly-line information processing. The new technology has meant that the speed and efficiency of the operator can be constantly electronically monitored and such relentless scrutiny has to be taking its toll in terms of the physical and mental health of workers.

It has been estimated that each word processor can produce the copy of several typists. This could mean an overall loss of 1½ to 2 million secretarial jobs in Canada.[6] An example of the impact of word processing on female employment can be found in the federal civil service. Taking the Canadian Public Service Commission figures for June, 1979 and June, 1980, the following statistical information can be extracted; word processing operators have increased by 9.8% in the year, but the number of secretarial workers has decreased by 1.8%, stenographers by 22.4% and typists by 14.0%. The secretarial group, which includes the above sub-groups, has undergone a 6.0% decrease and the support staff category (which includes the above group, clerks, key-punch operators, office equipment operators, etc.) has decreased by 2.5%.[7]

Although Saskatchewan has one of the lowest rates of unemployment in Canada, it is still at a much higher rate than in recent years. If female workers are being dislocated by technological change, what other employment avenues are open to them? Some futurists are predicting a whole new working concept, the computer in the home and home-based employment. While being able to work out of the home may well open employment opportunities for some disabled persons or unemployed homemakers, it is important to consider the potential negative aspects on any workers working out of their homes.

It could well be that women will end up with the role of earner and homemaker, and both to be performed at the same time in the isolation of the home. The following questions must be addressed by governments, employers, and unions before any kind of large scale "cottage industry" of home computer workers is allowed to develop;

(a) What would be the social implications - and who would measure them - of a large number of workers isolated in their homes, with the home serving as the working environment as well as the home environment - would there be a possibility of wide-spread social psychosis resulting in increased use of tranquillizers, increased depression, alcoholism, etc.?

(b) What rights would such workers have in regards to health and safety measures, e.g. possible low grade radiation from computers which would be in the home and, therefore, if a hazard, a hazard not only to the worker, but to his/her family? And what process of enforcement of safety legislation would apply to home work environment?

(c) What rights would such workers have regarding pensions, sick leave, child-care, vacations, etc.?

(d) What opportunities would such workers have to organize or belong to a union?

As it is extremely likely that the vast majority of "home computer operators" would be women, it is imperative that such questions be raised, discussed, and resolved. The alternative will surely be a return to the kind of exploitation of women prevalent in the sweat-shops and "piece-work" abuses of old.

2. Health Hazards - A Brief Over-View

There is broad concern among womens' organizations, labour unions and health professionals about the possible health hazards inherent in the new technology. Video display terminals (V.D.T.'s - word processors) are suspected of causing all manner of emotional and physical stress, back problems, eye problems, birth defects and miscarriages, the latter two possibly caused by radiation emissions. The debate on the safety of V.D.T.'s is certainly controversial and such research as has been published to date has proved to be conflicting and/or inconclusive.

Ergonomic-related health problems such as eye-strain and back pain and even emotional stress might well be alleviated by appropriate adaptations in the work environment. Shorter periods on the machines, creative working arrangements to reduce isolation, designing alterations in equipment, etc. are all feasible and should be considered by employers to ensure a comfortable and healthy workplace.

For women of child-bearing age, however, a more contentious concern is that of reproductive safety while using V.D.T.'s.

The Labour Canada Task Force on Micro-electronics was informed by the Canadian Airline Employees Association that at Dorval Airport in February, 1981, seven out of thirteen pregnant V.D.T. operators miscarried. The Task Force was told by the Hospital Employees' Union, Local 180, British Columbia, that out of a group of six pregnant V.D.T. operators, two miscarried and only one of the other four infants was normal at birth.[8] The same Task Force was informed by the Employers Council of British Columbia that, based on available medical evidence and research performed by Health and Welfare Canada, there is no identifiable health or safety risk to pregnant operators or developing fetuses.[9] In a collective agreement between the Communications Workers of Canada and Bell Canada (effective March 22, 1982)[10] pregnant employees who are regularly scheduled to work with V.D.T.'s are accorded the right to elect one of two options; to receive a leave of absence without pay prior to the period of which they are entitled to maternity leave, or be assigned to other work in the bargaining unit.

In a publication of the Canadian Advisory Council on the Status of Women called, "Reproductive Hazards at Work" the author, Nancy Miller Chenier, points out that the healthy fertility of male workers can also be adversely affected by radiation or contact with certain chemical substances. She states;

> *"Although research makes it clear that any consideration of susceptibility and any protective policies should include all fertile male as well as female workers, employers and legislators continue to ignore the facts."*[11]

3. Women, Redundancy, Training, Education

As has been stated earlier, female workers are largely concentrated in those areas of employment where their jobs are being de-skilled, e.g. a legal secretary becomes a word processor and the amount and speed of her work is monitored and dictated. Men are also being affected by technological change but may be better able to adapt because of prior educational opportunities.

However, a legacy of sex-role stereo-typing has served to steer many women into career choices of traditional employment. Access to non-traditional employment has been, and is, limited partly as a result of societal reluctance to accept women as welders, engineers, managers, etc.

In addition, female school children have been socialized to perceive themselves as "not as good at" math and science, traditionally appropriate educational choices for boys, and so are ill-equipped to adapt to the new technology. Training, up-grading and re-training must be made accessible to women inside and outside of the present workforce.

For many young women, entry into the workforce is going to be a problem. Measures have to be taken by governments, local and provincial, to ensure that appropriate career counselling is available in the schools and that female students are directed into math, science and computer programs. The education system should require all students to take basic courses in these areas. Educators must themselves take responsibility and be aware of the rapidly changing work world their students will be facing. Whereas in the past, the measure of an education was the degree of literacy achieved by the student, in the 1980's and on into the next century, the educated will be those who are proficient in computer literacy.

Very few Canadians would argue with the fact that the majority of women work because of economic need for themselves and their families. Large scale female unemployment could have a disastrous impact on the social and economic fabric of our society.

D. TECHNOLOGICAL CHANGE - EXISTING LEGISLATION (SASKATCHEWAN)

The only protective legislation that deals specifically with technological change in Saskatchewan comes under The Trade Union Act (1972). Technological change is defined as follows:

Section 43(1) in this section "technological change" means:

(a) the introduction by an employer into his work, undertaking or business of equipment or material of a different nature or kind than that previously utilized by him in the operation of the work, undertaking or business,

(b) a change in the manner in which the employer carries on the work undertaking or business that is directly related to the introduction of that equipment or material; or

(c) the removal by an employer of any part of his work, undertaking or business. [12]

The legislation goes on to attempt to regulate, in a limited way, the process of the introduction of technological change into a work place and the obligations of the employer to the union, and vice-versa. Such legislation does little to reflect the reality of centralization or plant closures due to technological change. Further, as this limited protection only applies to unionized workers, it does little to help the majority of working women who are non-unionized.

Section 26(1) of The Occupational Health and Safety Act (1978) does give workers the right to refuse to do any act that he/she has reasonable grounds to believe might be unusually dangerous to his/her health or safety or to that of other workers. As the verdict is not definitively in on the hazards of V.D.T.'s this protection may be of little use to a pregnant word processor concerned for the health of her pregnancy, i.e. she would have a problem in proving that long stretches at a word processor could cause her to miscarry or could affect the development of a healthy fetus.

E. CONCLUSIONS

If governments and industry are committed to the furthering of micro-technology, then they have an obligation to concern themselves with the implementation of protective legislation and appropriate measures to ensure the harmonious integration of technology and the work place. The physical and emotional impacts on the community of the rapid introduction of technological change must be matters of ethical consideration for legislators. In particular, those with a mandate for the status of women must be aware of the special problems and concerns of women.

Women are disadvantaged in the technological age in that socialization, education and training have not prepared many of them for adaptation to a radically changing workplace. All workers have the right to safe, healthy working conditions and the provincial government, whose constitutional obligations include the protection of the work force, and the health and education of the population, should be prepared to provide innovative and legislative measures to meet changing needs.

Recognizing that the effects and implications of technological change are national, international and global in scope, it is the position of the Saskatchewan Advisory Council on the Status of Women that the following recommendations should be considered by the Government of Saskatchewan.

Respectfully submitted to the Minister Responsible for the Status of Women.

F. RECOMMENDATIONS

1. That the Minister Responsible for the Status of Women establish a Commission of Enquiry to solicit the views of Saskatchewan women through hearings, briefs, presentations, case studies, etc. as to what should be incorporated in a Bill of Technological Rights.

2. That Labour Standards Legislation be introduced to protect workers so that in the event of a position being de-skilled, or rendered obsolete, that either in-house training and an alternate position be provided for the worker, or suitable compensation and re-training be provided for the worker under a levy/grant system applied to the employer.

3. That the Women's Division, Saskatchewan Labour, be directed to prepare an extensive public education and awareness program on the social and economic implications of technological change for women, and that such a program be made available to high school counsellors.

4. That the Government of Saskatchewan more aggressively promote its policy of Affirmative Action and give serious consideration to the attachment of Affirmative Action requirements to provincial investment assistance to business.

5. That the Government of Saskatchewan expands the availability of technical institute training programs in the technology-related fields, and develops support programs for women to allow them to obtain training in these fields, and that community colleges be encouraged and aided to provide such programs, in particular to rural and northern Saskatchewan.

6. That the Trade Union Act be adjusted to include the right of employees to be consulted prior to any technological change occurring and the right of employees to participate in all decisions regarding any technological change in their workplace.

G. FOOTNOTES

1. Statistics Canada Labour Force Summary, November 1982

2. In The Chips, Opportunities, People, Partnerships - Report of the Task Force on Micro-Electronics and Employment

3. Telecommunications and Canada - Report of the Clyne Consultative Committee on the Implications of Telecommunications for Canadian Sovereignty, March 1979

4. Heather Menzies - Women and the Chip - Case Studies of the Effects of Informatics on Employment in Canada, Montreal; Institute for Research in Public Policy, 1981

5. Federation of Women Teachers' Association - Brief to the Task Force on Micro-Electronics and Employment

6. Jane Stinson - New Office Technology; How You Can Get Lost in the Computer Age, From the Facts Cupe, Volume 2, #3, August 1979

7. Office of Equal Opportunities for Women, Public Service Commission; statistical

8. Brief to the Task Force on Micro-Electronics and Employment from the Canadian Airline Employees Association

9. Presentation to the Task Force on Micro-Electronics and Employment by Local #180, British Columbia, Hospital Employees Union

10. Collective Agreement; Communications Workers of Canada/Bell Canada. Operator Services and Dining Service Employees (March 22, 1982)

11. Reproductive Hazards at Work, Men, Women and the Fertility Gamble, by Nancy Miller Chenier, published by the Canadian Advisory Council on the Status of Women (December 1982)

12. Trade Union Act (Saskatchewan) 1972. Section 43(1) (a) (b) (c)

H. BIBLIOGRAPHY

In the Chips: Opportunities, People, Partnerships - Report of the Labour Canada Task-Force on Micro-Electronics and Employment

Collective Agreement - Communications Workers of Canada and Bell Canada - Operator Services and Dining Service Employees. 1982

New Technology and Employment Opportunities by Wassily Leontief. New York University Institute for Economic Analysis Discussion Paper - Presented at the National Conference on Micro-Electronics and The Work Environment March 1981. Ottawa

Technology and Employment in the Banking Sector - Trade Section Committee Meeting of Bank Workers, Rome April 1980 - Background Paper

Micro-technology and Employment - Issues of Concern to Women - July 1982. Published by the Canadian Advisory Council on the Status of Women

Cybernation - The Silent Conquest by Donald N. Michael, 1962 - A Report to the Centre for the Study of Democratic Institutions (U.S.A.)

Micro-Electronics and the Work Environment - by J.C. Madden for the Women's Bureau, Labour Canada

The Impact of the Micro-Electronics Revolution on Work and Working - Science Council of Canada, July 1980

Fiet Conference on Computers and Work - Summary. Velm, Austria. November 1978

Health Protection for Operators of V.D.T.'s/C.R.T.'s; Published 1980 by the New York Committee for Occupational Health and Safety Inc. (Nycosh)

Contract Provisions Dealing with Technological Change; Research Department Canadian Union of Public Employees. November 1980

Technological Change and Working Women, Jane Stinson. Paper Prepared for the Organized Working Women Conference on Women and Employment. February 1981

Women and the Chip: Case Studies of the Effects of Informatics on Employment in Canada. 1981 Institute for Research on Public Policy, Heather Menzies

Technology Change and Women Workers - The Development of Micro-Electronics - Item 8(a) of the Provisional Agenda of the World Conference of the United Nations Decade for Women, Copenhagen 1980

Computerization and Employment - A Labour View - Boris Mather

Quality of Working Life - The Canadian Scene - 1981 - Published by Labour Canada

Technological Innovation Studies Program - Research Report - The Attitude of Trade Unions Toward Technological Change - Stephen G. Peitchinis Pld. April 1980, Published Technology Branch, Industry, Trade and Commerce, Ottawa

The Vulnerability of the Computerized Society - Considerations and Proposals - Report by a Swedish Government Committee, 1979

Technological Change - Issues Impacting on Women. Prepared by the Women's Division, Saskatchewan Labour, 1981

Reproductive Hazards at Work - Men, Women and the Fertility Gamble. December 1982. Nancy Miller Chenier - Published by the Canadian Advisory Council on the Status of Women

Effects of Computerization on Employment and Working Environment - Labour Market Implications for Women - by Ulrika Tengelin, Legal Adviser, Ministry of the Budget, Sweden

Policy Paper, Technological Change; United Steelworkers of America

Drowning in the Pool - Word Processing and Organization - Janice Manchee - Paper Presented to the Secretary of State Workshop - Women and Micro-Electronics - Ottawa. March 1981

The Chips are Down: A Presentation on Women and the Micro-Electronics Revolution Made to the Allmand Committee on Employment Opportunities in the 80's. March 1981. By the National Action Committee on the Status of Women

Office Technology - The Trade Union Response - Report Published 1979 by the Association of Professional, Executive, Clerical and Computer Staff (U.K.)

Ergonomic Problems with Cash Register Operators in Supermarkets and Self-Service Stores. Prepared for the Fiet by Dr. Gary K. Busch. London 1978.

A P P E N D I X

Excerpts From Briefs, Submissions
And Other Materials
To The Task Force On
Micro-Electronics And
Employment

EXCERPTS FROM BRIEFS, SUBMISSIONS AND OTHER MATERIALS

-"*Projections for job loss range from very positive - a fully employed population with increased leisure time and a high standard of living; to very negative - massive unemployment and a society characterized by a few idle rich and many idle poor. The reality will no doubt, be somewhere between these two extremes.*

It is difficult to estimate what proportion of unemployment would be due to micro-technology and what would be due to general economic climate and market conditions. The fact that the full scope of the application of micro-technology is unknown also makes it difficult to judge its impact."

National Union of Provincial Government Employees

- "*It is difficult to sort out the most important ingredient now since Japan has less than 6% unemployment and is making use of micro-technology on a larger scale than Canada that now has over 10% unemployment.*"

Canadian Advisory Council on the Status of Women

- "*It will be necessary for all parties (employers, unions, employees, governments) to co-operate in the introduction of change so that all segments of society will benefit. Where change is implemented properly, it is a positive force in the employer/employee relationship and for the economy.*"

Canadian Manufacturers' Assocation

- "*Micro-technology offers our society the chance of great advancement but only if it is introduced for the benefit of all.*"

Communication Workers of Canada

- "*... we believe measures can be adopted which will ensure that the technology will be beneficial to all Canadians.*"

Public Service Alliance of Canada

- *"In the 1960's automation eliminated hundreds of thousands of industrial jobs across this country... In retrospect, however, the original near hysteria which suggested that jobs would vanish by a quarter past four this afternoon if we didn't do something turned out to be absurd."*

  Desmond Morton,
  Labour Historian

- *"We are aware micro-electronics will present new possibilities and new benefits to society. The advantages for the disabled are impressive. Employers will benefit by the lower cost, increased productivity and efficiency of the micro-chip. Novel directions and discoveries in leisure activities will emerge. All will benefit from a growing range of innovative services."*

  B.C. Federation of Labour

- *"Our Union is not naive enough to think that it can stop the revolution, nor do we want to. To the contrary, we want to be part of it."*

  National Union of
  Provincial Government
  Employees

- *"On a more positive and general note, we also see great opportunities for the whole of society with the intelligent use of technology."*

  National Action
  Committee on the
  Status of Women

- *"Those planning for change and the introduction of computer aided systems will have to see that the people whose jobs are affected are well-informed, that their needs and concerns are considered, and that they have help and understanding to make the transition from the old to the new a success."*

  Canadian Pacific Limited

- *"...employers must pay greater attention to the impact of change on their workers, in addition to the consideration given to other factors of production, such as plant, equipment, raw materials and finances. Employees must be confident that they will be treated properly when dislocated in some fashion by change."*

  Canadian Manufacturers'
  Association

- *"Another factor which will affect the speed with which new technologies are introduced is the attitude of workers. Employee co-operation is essential for the successful implementation of technological change and will be forthcoming provided employers make a commitment to re-train and re-locate their personnel. Employers must also be responsive to the health and safety concerns of their employees."*

  The Canadian Bankers' Association

- *"The government and all other employers in Canada must not consider the people obsolete simply because their skills are obsolete."*

  Federation of Women Teachers' Association

- *"Training is the key to adapting to technological change and increased investment must be made in order to meet the growing skill and technical manpower requirements of the new technology."*

  British Columbia Telephone Company

- *"... business does have a social responsibility to provide for people displaced by technological change."*

  British Columbia Employers' Council